

CLAIMS

1. An electrical machine with a rotor attached to a shaft and a multi-part stator (1) that has a yoke ring (2) and stator fins (4, 14) that delimit winding grooves (8), which accommodate windings (9) or winding segments wound around insulator elements (5, 6, 7), characterized in that the stator (1) has a number of first wound insulator elements (5, 6, 7) that are wound one after another with the same first winding wire (9) and a number of second insulator elements that are wound one after another with the same second winding wire.
2. The electrical machine according to claim 1, characterized in that the insulator elements (5, 6, 7) are frame-shaped or ring-shaped coil bodies that can be slid around or onto stator fins (4) or onto teeth (14) of the stator (1).
3. The electrical machine according to claim 1 or 2, characterized in that the stator fins (4, 14) of the stator (1) are designed to fit the frame-shaped or ring-shaped insulator elements (5, 6, 7) so that the insulator elements (5, 6, 7) with the windings (9) can be fastened to the stator fins (4, 14) with form-fitting engagement.
4. The electrical machine according to one of the preceding claims, characterized in that the multi-part stator (1) has a hollow, cylindrical yoke ring (2) and a toothed ring (3) concentric to it, whose teeth (14) constitute the stator fins to which the insulator elements (5, 6, 7) can be fastened.

5. The electrical machine according to one of the preceding claims, characterized in that a number of insulator elements (5, 6, 7) provided with winding wire (9) can be fastened to a stator part (3) and that the stator part (3) with the insulator elements (5, 6, 7) fastened to it can be attached to the yoke ring (2).
6. The electrical machine according to one of the preceding claims, characterized in that the outer edges of the insulator elements (5, 6, 7) are provided with channel-like recesses (12) for the winding wires (9).
7. The electrical machine according to one of the preceding claims, characterized in that the insulator elements (5, 6, 7) have detent projections (11) on one side in order to permit them to be fastened to the stator (1) of the electric motor.
8. The electrical machine according to one of the preceding claims, characterized in that the winding wire (9) is wound clockwise or counterclockwise around one insulator element (5) and then is wound in the same winding direction around the subsequent insulator element (6, 7).
9. The electrical machine according to one of the preceding claims, characterized in that the electric motor is embodied as a brushless asynchronous, synchronous, or EC motor.

10. The electrical machine according to one of the preceding claims, characterized in that the winding wire ends (10) of the insulator elements (5, 6, 7) that are jointly wound with one winding wire (9) are connected in an electrically conductive manner to power supply lines by means of one or more interconnection grids.